

CLAIMS

1. A soft magnetic sintered member consisting of, all in mass %, 2.9 to 7% of Cr; 1.5 to 6.88% of Si; and the balance of Fe and inevitable impurities.
2. A production method for a soft magnetic sintered member, the method comprising:
 - preparing an Fe alloy powder having an average particle size of 75 to 150 μm , the Fe alloy powder consisting of 3 to 7 mass% of Cr, 1.5 to 3.5 mass% of Si, and the balance of Fe and inevitable impurities;
 - compacting the Fe alloy powder into a green compact having a predetermined shape; and
 - sintering the green compact.
3. A production method for a soft magnetic sintered member, the method comprising:
 - preparing an Si powder having an average particle size of 1 to 45 μm and an Fe alloy powder having an average particle size of 75 to 150 μm , the Fe alloy powder consisting of 3 to 7 mass% of Cr, 1.5 to 3.5 mass% of Si, and balance of Fe and inevitable impurities;
 - mixing 0.1 to 3.5 mass% of the Si powder and the Fe alloy powder to

obtain a mixed powder;

compacting the mixed powder into a green compact having a predetermined shape; and

sintering the green compact.

4. The production method for a soft magnetic sintered member according to claim 2 or 3, wherein the Fe alloy powder is annealed at a temperature of 600 to 800°C.

5. The production method for a soft magnetic sintered member according to claim 3 or 4, wherein the Fe powder is coated with the Si powder via a binder.

6. The production method for a soft magnetic sintered member according to one of claims 3 to 5, wherein the mixed powder is obtained by immersing the Fe alloy powder into a dispersion liquid in which the Si powder is dispersed in water or ethanol, or spraying the dispersion liquid onto the Fe alloy powder, and then drying the Fe alloy powder.

7. The production method for a soft magnetic sintered member according to claim 6, wherein a binder is mixed with the dispersion liquid at a rate of 1 mass% or less with respect to 100 mass% of the mixed powder.